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## A Review of the Neotropical Genus *Neotaracia* Foote (Diptera: Tephritidae)

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### ABSTRACT

The neotropical tephritid genus *Neotaracia* Foote is reviewed. Two previously described species, *Neotaracia imox* (Bates) and *N. plaumanni* (Hering) (n. comb.), are redescribed, and their taxonomic characters are compared with a third species, *unimacula*, which is described as new. A key to species, a review of the literature, and illustrations of the critical taxonomic characters are included. No information is available concerning the biology of the 3 species belonging to this genus.

Among specimens of Tephritidae currently present in the U. S. National Museum, two closely related but distinctive species of Tephritinae, originally described in the genus *Acrotaenia* Loew, are represented. Earlier (Foote 1978) I designated one of these species, *imox* Bates, the type-species of a new genus *Neotaracia*, which closely resembles *Acrotaenia* in many respects but differs from that genus mainly in wing pattern. The other species represented in the collection is *plaumanni* Hering, collected mostly at Nova Teutonia from 1950 to 1977 by F. Plaumann, which is trans-

ferred to *Neotaracia* in the present paper. The discovery of a third species from Mexico and San Salvador, described here as new, prompted me to undertake the present review.

### Genus *Neotaracia* Foote

*Neotaracia* Foote 1978: 31. Type-species, *Acrotaenia imox* Bates.

*Diagnosis*.—Frons bare, 3 pairs lower fronto-orbitals, 2 pairs upper fronto-orbitals, the posterior pair light colored; all setae in postocular row light colored; broad, rounded facial carina present; 1 pair dorsocentrals, situated on or directly behind transverse suture; notopleurals

unicolorous; 2 pairs scutellars, posterior pair less than 0.5 times as long as anterior pair; wing broad, disk dark with hyaline spots in most of the cells; an inverted hyaline triangle usually at apex of subcostal cell and always at apex of vein R2 + 3, and 2 or 3 narrow hyaline incisions into disk from posterior margins of cells R5 and AM.

*Discussion.*—*Neotaracia* belongs to the tephritine tribe Platensini, which is characterized by having a long-oval head and a relatively broad wing. In profile the frons meets the face at an obtuse angle or is rounded into it at the antennal bases without a perceptible angle, and the anterior half or third of the wing disk is usually marked darker than the remainder of the disk; the costa usually is bowed prominently between the apices of veins R1 and R2 + 3.

The tribe contains 4 other neotropical genera—*Acrotaenia* Loew, *Caenoriata* Foote, *Acrotaeniacantha* Hering, and *Pseudacrotaenia* Hendel. Foote (1978) discusses means for distinguishing *Neotaracia* from *Acrotaenia* and *Caeniorata*, both of which it closely resembles:

the presence in *Neotaracia* of unicolorous postoculars, a facial carina, a bare frons, light colored posterior upper fronto-orbitals, a single pair of dorso-centrals, a straight rather than sinuate vein R2 + 3, relatively short posterior scutellars, and the central position of vein r-m relative to the discal cell. In *Neotaracia* the posterior pair of lower fronto-orbitals and the anterior pair of upper fronto-orbitals are well separated, whereas in *Acrotaeniacantha* and *Pseudacrotaenia* these bristle pairs are situated very close together, and in some species the anterior upper fronto-orbitals are placed anterior to and between the posterior lower fronto-orbitals. The wing disk of *Acrotaeniacantha* is filled with numerous, very small light or hyaline spots, while the discal spots of *Pseudacrotaenia* are larger, less numerous, and have distinct brown borders.

Virtually nothing is known about the ecology or host relationships of the three species discussed herein.

#### Key to the Species of *Neotaracia* Foote

1. Inverted hyaline triangle immediately apicad of apex of vein R1 absent, replaced by a diagonal, irregular-shaped hyaline spot in the disk of cell R1 (Fig. 8); 2 hyaline incisions from posterior margins of cells R5 and AM ..... *unimacula* Foote, n. sp.  
 Inverted hyaline triangle immediately apicad of apex of vein R1 present and about the same size and shape at that at apex of vein R2 + 3; 3 hyaline incisions from posterior margins of cells R5 and AM ..... 2
2. Hyaline triangle apicad of apex of vein R1 rarely extending posteriorly across vein R2 + 3; cell R3 and discal cell each with at most 1 very small hyaline spot; apical half of vein M and basal half of vein CuA bordered with brown concolorous with remainder of disk (Fig. 7) ..... *imox* (Bates)  
 This hyaline triangle usually extending posteriorly across vein R2 + 3; cell R3 and discal cell each with 2 or 3 hyaline spots; apical half of vein M and basal half of vein CuA bordered with yellow (Fig. 9) .... *plumanni* (Hering)

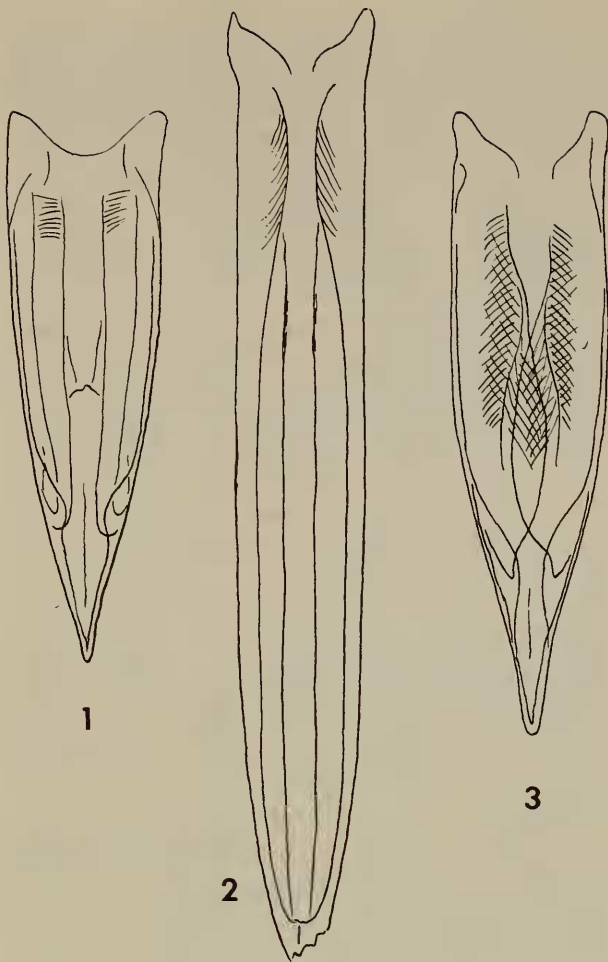
#### *Neotaracia imox* (Bates)

*Acrotaenia imox* Bates 1934: 11; fig. 2 (wing). Type-locality, Higuito, San Mateo, Costa Rica.—Aczél 1949: 268 (in neotropical catalog).—Foote 1967: 57.5 (in neotropical catalog).

*Neotaracia imox* (Bates): Foote 1978: 31; fig. 7 (wing) (taxonomic discussion).

*Description.*—Similar in size and color to *unimacula* with yellow head and body, abdomen brown or marked with a brown pattern dorsally. Frons from posterior margin of ocellar triangle to ptilinal suture 1.1 times as long as width between

eyes at vertex; head and thoracic bristles yellow, nearly concolorous with adjacent integument; dorso-centrals arising very close to or actually upon transverse suture; scutum unmarked except for the presence of an indistinct medial scutoscutellar spot; postscutellum and metanotum entirely yellow or darkened somewhat laterally, the latter without a silvery pollinose central area; hyaline incision at apex of vein R1 rarely crossing vein R2 + 3; cell R3 completely dark centrally (Fig. 7); hyaline spot in base of cell R5 small in both sexes; hyaline spot in base of cell AM small, rounded; brown areas contiguous with apical half of vein M and basal half of vein CuA concolorous with rest of disk;

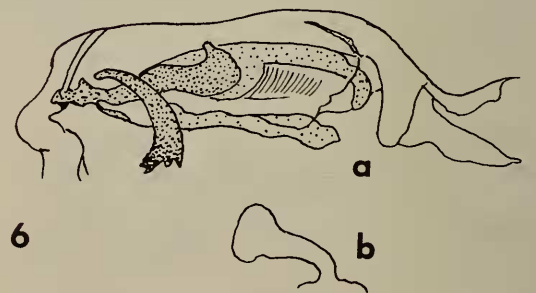
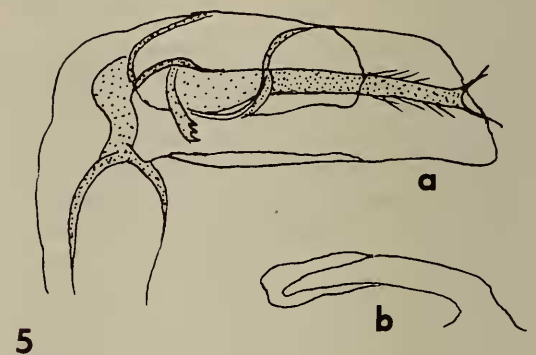
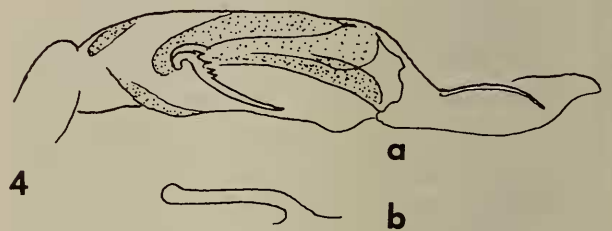


Figs. 1-3, ovipositors, *Neotaracia* spp.: 1, *N. imox* (Bates); 2, *N. unimacula* Foote, n.sp. (tip broken); 3, *N. plaumanni* (Hering).

extension of basal cubital cell 2.3-2.5 times as long as its width at base; abdominal tergites usually completely brown or with yellow areas anterolaterally on each segment; aedeagus and apodeme of fultella as in Fig. 1; ovipositor (Fig. 4) 0.68-0.77 times as long as sheath.

*Specimens examined.*—Holotype, ♀, Higuito, San Mateo, Costa Rica, Pablo Schild, col. Additional material. MEXICO: 1 ♀, 1 ♂, Cacahoatan, Chiapas, 30.VIII.1961, H. Sanchez R., Steiner trap in orange tree (USNM). COSTA RICA: 9 ♀♀, 3 ♂♂, 6 ??, Higuito, San Mateo, Pablo Schild (USNM); 1 ♀, 1 ♂, Pedregoso, D.L. Rounds (USNM); 2 ♀♀, Turrialba, 15-19.VII.1965, P. J. Spangler (USNM). PANAMA (all USNM): 1 ♂, La Campana, Muñoz Grove, 10.I.1939, glass traps, J. Zetek No. 4317; 2 ♀♀, 1 ♂, La Campana, I-III.1938, J. Zetek No. 4104; 3 ♂♂, El Cermeno, X.1939,

I.1940, fly trap, J. Zetek No. 4621; 1 ♀, Colon, 1.VIII.1946, N. L. H. Krauss No. 823; 5 ♀♀, 3 ♂♂, David, X.1959, N. L. H. Krauss, 3 ♀♀, 1 ♂, XII.1946, N. L. H. Krauss No. 999. CANAL ZONE: 1 ♀, Ancon, 30.XII.1932, J. Zetek; Barro Colorado I., 1 ♀, X.1942, J. Zetek No. 5030, 2 ♂♂, 4.V.1942, J. Zetek No. 4952. COLOMBIA: 2 ♀♀, 1 ♂, Villavicencio, VI.1976, O. Jimenez, McPhail trap (USNM). ECUADOR: 1 ♀, Napo, Limoncocha, 11.VI.1977, D. L. Vincent (USNM). "WEST INDIES": 1 ♀, E. F. Becher, 1907-173 (BMNH). TRINIDAD: 2 ??, St. Augustine, X.1958, F. D. Bennett, CIE Coll. No. 16930,



Figs. 4-6, aedeagi (a) and apodemes of fultella (b) of *Neotaracia* spp.: 4, *N. imox* (Bates); 5, *N. unimacula* Foote, n. sp.; 6, *N. plaumanni* (Hering).



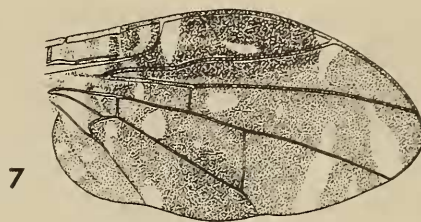
ex inflorescence *Synedrella* nod. fluva [sic] (BMNH); St. Augustine, 5 ♀♀, 3 ♂♂, 8–12.I.1959 (CNC); 4 ♀♀, 1 ♂, I.1959 (CNC); 1 ?, X.1959 (CNC); 1 ♂, XI.1959 (CNC); 1 ♀, 5 mi. s. San Fernando, 24.X.1931, Kisliuk and Cooley No. 231, on leaf sapodilla (USNM); 1 ♂, Port of Spain, nr. Imperial College, 12.XI.1956, fruit fly trap (USNM). VENEZUELA: 1 ??, Carabobo, Valle Seco, I.1940, P. Anduze (USNM); 3 ♀♀, 1 ♂, Guanare, est. Portuguesa, 10–13.IX.1957, Borys Malkin (CNC); 1 ♀, San Esteban, XI.939, P. Anduze (USNM).

*Discussion.*—The wing patterns of both *imox* and *unimacula* contrast with that of *plaumanni* in having fewer and smaller hyaline markings, causing them to appear somewhat darker. In contrast to *unimacula*, which *imox* resembles closely, the wing of *imox* possesses 2 distinct inverted hyaline triangles, one immediately apicad of the apex of vein R1 and another about the same size and shape at the apex of vein R2 + 3 (see description and discussion of *unimacula*).

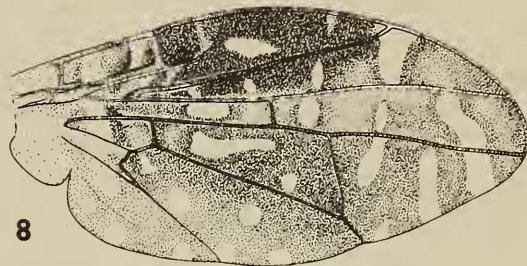
*N. imox* is the most widely spread of the 3 species discussed here, occurring from Chiapas, Mexico south to Colombia and Ecuador and east to Trinidad and Venezuela. It has been collected from McPhail traps on a number of occasions in Panama, the Canal Zone, and Trinidad. Two specimens from Trinidad seen in this study were reared from the inflorescence of the composite *Syndrella nodiflora*, and the species has been found resting on sapodilla and citrus leaves.

#### *Neotaracia unimacula* Foote, new species

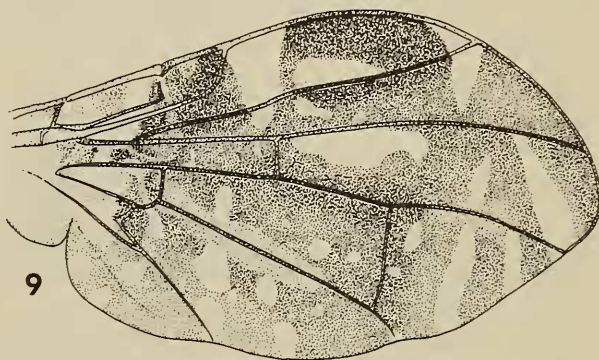
*Description.*—Similar to *imox* with yellow head and thorax but with nearly unmarked yellow abdomen; frons from posterior margin of ocellar triangle to ptilinal suture equal to width between eyes at vertex; head and thoracic bristles yellow, very nearly concolorous with adjacent integument; dorsocentrals arising immediately posterior to transverse suture; scutum anterior to acrostichals with 3 very faint yellow longitudinal fasciae visible only when viewed from behind; no dark scuto-scutellar mark present; postscutellum with a pair of very light brown triangular marks ventrolaterally; metanotum somewhat darker yellow than scutellum



7



8



9

Figs. 7–9, right wings of *Neotaracia* spp.: 7, *N. imox* (Bates); 8, *N. unimacula* Foote, n. sp.; 9, *N. plaumanni* (Hering).

and postscutellum, otherwise unmarked; triangular hyaline mark at apex of vein R1 absent, replaced in disk of cell R1 by a small, irregularly shaped diagonal hyaline spot not touching costa or veins R1 or R2 + 3 (Fig. 8); cell R3 with 2 or 3 very small rounded hyaline spots; hyaline spot at base of cell R5 small, all the hyaline areas in cells R and R5 with brown borders darker than in adjacent wing disk; hyaline spot in base of cell AM transversely elongate, sometimes nearly contiguous across vein R5 with a transverse spot in cell R3; brown areas contiguous with apical half of vein M and basal half of vein CuA concolorous with rest of disk; extension of basal cubital cell about 2.0 times as long as wide; abdominal tergites of both sexes yellow, concolorous with metanotum, unmarked with darker brown but darker apically and basally than centrally; ovipositor (Fig. 2) about as long as ovipositor sheath (tip broken); aedeagus and apodeme of fultella as in Fig. 5a, b.

*Specimens examined.*—Holotype, ♀, San Salvador, El Salvador, 19.V.1958,

O. L. Cartwright (USNM Type No. 76061). Paratypes: 1 ♂, same data as holotype (USNM); 1 ♀, Fortín de las Flores, Sumidero, Vera Cruz, Mexico, planta de la cerveceria, D. Rábago Res., 2–3,000 ft., H. V. Weems, Jr. (UF).

*Discussion.*—The wing pattern of *unimacula* resembles that of *imox* in having fewer and smaller hyaline markings than that of *plaumanni* (cf. Figs. 7–9). The new species may be immediately recognized among the 3 species of *Neotaracia* by the absence of a distinct inverted hyaline triangle immediately apicad of the apex of vein R1. This triangle is replaced by a small irregularly shaped hyaline spot in the middle of the field of cell R1 posterior to the apex of the subcostal cell. Unlike *imox* and *plaumanni*, a very small yellowish or hyaline incision is usually present subapically on the costa in cell R1, and there are only 2 hyaline incisions in the posterior apical quarter of the wing disk. See the description of each species for additional differentiating characters.

*N. unimacula* has been found only in the Mexican state of Vera Cruz and in San Salvador, El Salvador, Central America. No information is available concerning the habits, life history, or host relationships of this species.

*Etymology.*—The name *unimacula* signifies the presence of only one prominent inverted hyaline triangle on the anterior costal margin of the wing pattern.

*Neotaracia plaumanni* (Hering), new combination

*Acrotaenia plaumanni* Hering 1938: 188, fig. 2 (wing). Type-locality, Nova Teutonia, Santa Catarina, Brazil.—Aczél 1949: 269 (in neotropical catalog).—Foote 1967: 57.6 (in neotropical catalog).

*Description.*—Frons from posterior margin of ocellar triangle to ptilinal suture 0.9 times as long as width between eyes at vertex; head and thoracic bristles distinctly browner than adjacent yellowish integument; dorsocentral arising close to, but distinctly posterior to, transverse suture; scutum with a narrow, indistinctly margined median vitta; no scutoscuteellar mark present;

central third of postscutellum silvery pollinose, this segment darkened laterally; metanotum entirely dark; inverted hyaline triangle immediately apicad of apex of vein R1 often extending posteriorly across vein R2 + 3 into cell R3, latter with at least 3 small spots centrally (Fig. 3); hyaline spot in basal half of cell R5 small in females but occupying more than half the length of cell in males; hyaline spot in base of cell AM more or less elongate in parallel with vein dm-cu; apical half of vein M and basal half of vein CuA bordered narrowly with yellow in contrast to surrounding brown color of disk; extension of basal cubital cell 3.5–4.0 times as long as its width at base; abdominal tergites 3–6 brown or brown and yellow, with a distinct yellow transverse band at apex of each tergite; aedeagus and apodeme of fultella as in Fig. 6a, b; ovipositor (Fig. 3) about 0.77–0.82 times as long as sheath.

*Specimens examined.*—ARGENTINA: 2 ♂♂, 3 ♀♀, 2 ??, Misiones Terr., F. & M. Edwards, BM 1927–63, Bompaland, 13–14.I. 1927 (BMNH). BRAZIL: Barueri, K. Lenko, 1 ♀, 19.IX.1965, 1 ♂, XII, 1962 (MZSP); 1 ♀, Iguaçú Falls, 11.XI.1970, J. Sedlacek (Bish); Nova Teutonia (some of following specimens labeled 27°11', 52°23', 2–300 m., F. Plaumann): 1 ♂, 1 ♀, 4.IX.1950; 1 ♀, 19.V.1957; 3 ♂♂, 6.I.1959; 1 ♀, 6.II.1959; 1 ♀, 10.II.1959; 1 ♂, 9.IX.1959; 1 ♀, 22.X.1959; 1 ♂, 14.XI.1959; 1 ♀, 23.–XII.1959; 1 ♂, 5.IV.1960; 1 ♀, 26.IV.–1960; 1 ♂, 20.XII.1961; 1 ♂, 19.X.1962; 1 ♀, 25.X.1962; 1 ♂, 30.X.1962; 3 ♀♀, 1 ♂, V.1963; 2 ♀♀, IX.1963; 1 ♀, X.1963; 1 ♀, IX.1964; 1 ♂, X.1963; 1 ♂, XI.1963; 2 ♀♀, I.1965; 1 ♂, II.1965; 1 ♀, IV.1965; 3 ♀♀, 1 ♂, X.1965; 1 ♀, XII.1965; 2 ♀♀, I.1966; 1 ♀, IX.1966; 1 ♀, X.1966; 3 ♀♀, 1 ♂, 1 ??, X.1970; 1 ♀, 1 ♂, 1 ?, XI.1970; 2 ♀♀, I.1971; 2 ♀♀, II.1971; 1 ♀, VII.1971; 3 ♀♀, 2 ♂♂, X.1971; 3 ♀♀, 2 ♂♂, XI.1971; 1 ♀, I.1972; 1 ♀, IV.1975; 1 ♂, VII.1975; 1 ♀, I.1977 (CNC, FNMH, MZSP, UCR, USNM).

*Discussion.*—In comparison with the 2 foregoing species, *plaumanni* is distinctive in that the hyaline spots in the wing disk are larger and more numerous (cf. Figs. 7–9), a feature especially evident when seen with the naked eye. Although this species resembles *imox* in



having 2 inverted hyaline triangles on the anterior margin of the costa as described, it may be distinguished easily from both *imox* and *unimacula* by the narrow yellow margins along the apical half of vein M and the basal half of vein CuA which contrasts with the widespread brown color of the wing disk. Other differences are set forth in the descriptions of the 3 species.

*N. plaumanni* is apparently restricted to those parts of Brazil and extreme eastern Argentina that lie between 23 and 28° S. Lat. Most of the specimens seen in this study were collected from Nova Teutonia in the state of Santa Catarina, Brazil, where the species must be extremely common. However, no information is available concerning its life history or host associations.

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